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DECIDUOUS SHADE TREES FOR PRIVATE GROUNDS.

In our last December number we named some few varieties of trees that we consider eminently deserving to be planted for street shades. We now designate a few of the many beautiful trees that we regard as especially desirable for planting in private grounds. First of all, we name our American Beech, as combining more of beauty, grace, and magnificence than perhaps any other of our forest trees. True, it has not the grandeur of the oak; but, with its stateliness of upright, spreading growth, every line and twig is one of graceful ease, and from the first opening of the buds in spring, onward until in full foliage, its glossiness and changing shades are a constant but varying feature of beauty. In winter, its delicate spray, combined with the prominence of its long-pointed buds, make it especially an object of attraction and admiration. Some planters object to the Beech on account of a tendency to sucker, but we have never found any such tendency where the roots remained unbroken by cultivation.

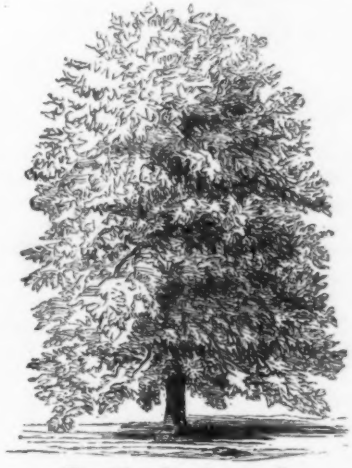

FIG. 14.—*American Beech.*

Young trees should always be procured with branches starting from near the ground, and rarely does it need the knife applied to give it regularity and symmetry of form. A deep loamy, rather moist, soil gives it most vigor and causes it to grow to a large size; but it also grows freely in poor, thin soils, as the roots spread widely and keep near the surface.

Of fancy varieties of the Beech, the true Purple-leaved is the most desirable. It has rather stronger limbs and twigs than the common plain variety, and the young shoots and buds are of a rose color, while

the foliage when young or half grown is of a reddish purple tinge, and when mature becomes dark purple, forming a pleasing and attractive contrast with the green of other trees. The Cut-leaved forms, while young, a vigorous, well-marked tree, with leaves variously cut, resembling in some cases ferns, in others willow; as it gets age, however, these markings of the foliage become less and less distinct. The Variegated-leaved, Crested, etc., are all singular, but of feeble growth, and only desirable in an arboretum.

The family of Maples are all good as shade trees for lawn or roadside, but among them, the *Rubrum*, red-flowering, or,

FIG. 15.—*Scarlet Maple.*

as generally termed, Scarlet Maple, is most to be prized. Its red flowers and leaves in early spring or beginning of summer, its brilliant shades of red foliage in autumn, taken in connection with its rapid growth and upright, half spreading form, render it one of the most ornamental of hardy trees. Although a native, and abundant in many parts of our Northern Middle States, one or more trees of it should be found in all grounds of half an acre or more in size. In places of considerable extent, when variety as well as beauty is desired, the following are varieties that possess characters rendering their introduction requisite, viz., the Tartarian, on account of the early opening of its leaves. The Striped-barked, because of the stripes, white and black, upon its young, green wood, making it always a curiosity and attractive to visitors. The Norway, from its contrast with others in spring and fall, the foliage then being yellow, is deserving a place. Next to the Norway, and similar to it, is the Sycamore Maple, a variety of rapid growth, and forming at maturity a large and stately tree. As an avenue tree, or standing by itself singly, it is always effective. Of the fancy varieties, the *Purpurea* is the only one that is particularly desirable. Its leaves are

purplish underneath, and pale green above when fully expanded; and at midsummer, and thereafter until the fall of the leaf, every breeze that ruffles and disturbs them produces a singular effect.

MAGNOLIAS.—To this family, many varieties of which are the pride of our Southern States, too little attention is given by the majority of tree planters; whether it is because of good plants being difficult of obtainment, or from their being rather sensitive and unwilling to be carelessly and negligently handled when transplanting, we find few planters make room for them on their lists or in their grounds; but we do not see how any landscapist can form an extensive group of evergreens and deciduous trees without using more or less of Magnolias. In our experience we have found no difficulty when transplanting, provided we kept the roots from cold drying winds or clear burning suns; exposure to either of which, by reason of their soft spongy texture, is injurious, and often destructive of life. Of the varieties, all are beautiful; but some

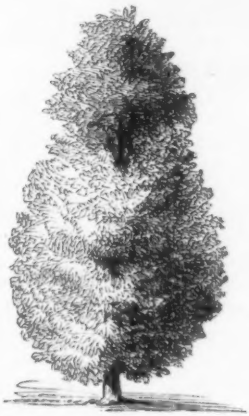

FIG. 16.—*Magnolia Acuminata.*

are not perfectly hardy when grown in our Northern States. The *Acuminata*, or Cucumber Tree, as it is frequently called, is very upright, almost cone-like in its form, and for backgrounds or the center of groups one of the most desirable of all deciduous trees. The *Glauca*, or Swamp Magnolia, is almost a sub-evergreen, often retaining its

FIG. 17.—*Magnolia Glauca.*

foliage until January, even in our Northern States. Unless grafted or budded on the acuminata, it is only a dwarf, growing from six to twenty feet high—more like a bush than a tree. In moist, cool situations it often flowers all the season—from June to September. The fragrance of its flowers, together with the rich, glossy, pale green foliage and young shoots, form for it a shrub tree that, were it now to be newly introduced, would cause an excitement, in the arboricultural world, that is rarely known. Some sub-varieties, as *Longifolia Gordoniana*, etc., are better because larger in foliage, and perhaps a little stronger in growth, but their actual hardihood in all positions we think remains to be tested. Magnolia *Tripetela*, called Umbrella Tree, when grown north of Philadelphia, seldom acquires much size, but sends up numerous stems from its crown to replace decaying ones, which have perhaps flowered two or more years. In the warmer parts of our country it forms a large tree, and in all grounds is especially desirable. Of the Chinese varieties, Magnolia *Conspicua* and *Soulangeana* are the most generally known

—both good; but if either one was to be selected, we should choose the Soulangeana,

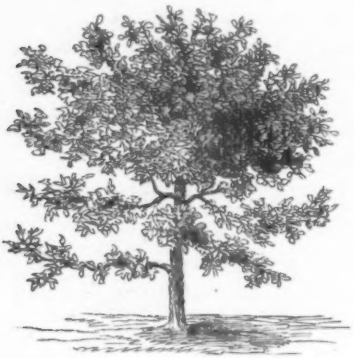

FIG. 18.—*Magnolia Conspicua.*

because it is a more rapid grower, and because its flowers appear to escape injury from frosts better than the *Conspicua*. Both form spreading round-headed trees of middle size, and should always be arranged in the foreground of a group of evergreens, because of their flowering early in spring

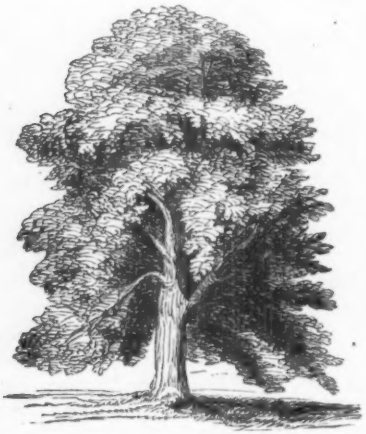

FIG. 19.—*English Elm.*

before the growth of their leaves. A variety called Magnolia *Lenne* is described in *Hovey's Magazine* as being as hardy as the Conspicua, of vigorous habit, with flowers the color of the Soulangeana, but more than twice the size, full as large as a tea-cup." Magnolia *Purpurea* and *Gracilis* are both shrubs, and perhaps should not here be spoken of; but as we have found in planting that their arrangement as undergrowth to the Conspicua and Soulangeana produces a happy effect, we venture to mention them.

Among Elms, we give the preference to what is termed English Elm—*Ulmus Campestris*—because of its less-spreading habit as compared with our American Elms, and more because of its retaining its

FIG. 20.—*Osage Orange.*

foliage later, thus carrying the season of foliage almost into the winter months. A great number of varieties of this species occur among the trees sold, because all are grown from seed. The planter can frequently select trees of a dozen different habits among those offered by the dealer. The Cork-barked is considered only a variety, but the cork-like covering of its bark renders it a tree of marked character, and always commanding notice. The Osage Orange, where a tree of medium size is wanted, possesses characters that should bring it more in use as an ornamental tree than has been the case. It forms a very regular round-head, with glossy dark green

leaves, very much like the Orange. It is entirely free from insects.

The Persimmon, or Virginia Date Plum, is another desirable shade tree, too little planted. It forms an upright round-head, rather erect than spreading. Varieties may be selected yielding fruit that ripens early in September or before frosts, and very palatable, in fact by many persons preferred to foreign dates; but the greater number of the trees grown do not produce a fruit at all eatable until after several severe frosts have mellowed its natural harsh astringency.

There are many other trees of value that we could name, but for want of room must defer doing so until a future time.

FIG. 21.—*Persimmon Tree.*

A CHAT WITH MY NEIGHBORS.

BY FRANK AMON.

I HAVE around me some very good neighbors, and all more or less imbued with a taste for horticultural pursuits. Some of them are readers of the HORTICULTURIST, and, as a consequence, advanced in their knowledge of the subject over those that do not read. I hope they will excuse me for thus telling their good points, but as it is my rule to tell the truth as I know it, I shall, of course, take nothing back. One of my neighbors is decidedly enthusiastic on fruits, and especially upon grapes, and at once sends off for every new one that has a shadow of promise to be valuable. He cultivates, by-the-by, a little over nine acres in vineyard, and takes care of it, too, which is saying more than I can for another neighbor, who has grasped tight the belief that no cultivation is the best of cultivation. Whenever any such doctrine is asserted, I have a habit of thinking the advocate likes to lie in bed pretty late of a morning, loves to go hunting, etc., rather than apply himself to practice with the hoe or pruning-knife. But to our chat.

Neighbor B. says he has had enough of puny, thread-rooted grapevines; that last season he tried some thousands, not because he believed in them, but that when he was ready to purchase in the spring he could find no others. This year he took time by the forelock, and laid in his vines this past fall, by purchasing plants of two to three feet growth, of well-ripened wood, as large as one's little finger; had the vines dug and delivered to him; then he selected a dry location, and heeled them in carefully, covering two buds with earth, and then covering the whole batch with straw, and thinks the spring will find him with plants of a quality and in such condition that, if he gives them good culture, will be satisfactory to him in their appearance next fall.

Neighbor L. thinks he would have preferred to have buried his plants in sand in the cellar, because last year his roots outdoors were injured, while those kept in the cellar were "first-rate." I suggested that burying in the sand in the cellar might answer if the cellar was a new one, and the

sand freshly put in, but I queried that if the cellar was an old one, and the sand had been in it one or more years, whether the niter engendered would not be injurious to roots and plants kept there. I know some tree-dealers have told me that their trees and plants imported too late in the fall for out-door heeling-in, and placed in the cellar, had not come out as they could have wished in the spring, nor as they did in years gone by, when their cellars were new, and they attributed the cause to the niter that had accumulated in the sand.

Neighbor K. said this growing of grapevines in the manner it had been done for the past half dozen years, by forcing, etc., had set us back at least ten years in vineyard culture, while at the same time it had made rich a few who he thought loved money more than the cause and advancement thereof. He knew he was speaking out loud, but it was too true. There is nothing, said he, to prevent growing grapevines as was done by nurserymen twelve or fifteen years ago, and then it was considered a profitable business to be able to sell all the hardy grapevines that could be grown, at ten to twelve cents each, at two years old.

Neighbor S. said our growers now offered Catawba, and some others of the old kinds, at from three to five cents each, one year old, but he supposed the price paid for buds of the new kinds had kept up the price for plants.

Neighbor K. said he was in favor of giving to an originator of a new fruit full compensation, but after it had been distributed years, there was no sense in holding puny plants grown in a forcing-house, at sixty, seventy, and eighty dollars a hundred, when abundance of well-ripened buds were for sale at two to five cents each. As he had before remarked, he believed the quality of the plants sold, and the exorbitant rates asked for them, had kept us back in vine culture at least ten years. He believed, also, that the check time had come, and that growers of vines, even this spring coming, would have to sell at far less than advertised rates, or keep over, and that another season he hoped planters would be educated up to a point that would cause them to purchase only plants similar to what Neighbor B. had procured this last fall.

I suggested that vine-growers were very much like other men, and endeavored to obtain as much as possible for their wares; that the excitement on grape culture which had prevailed the past few years, had induced many a man to invest who had really no knowledge of, or love for, the subject, and who had invested as a source of prospective income without labor or care; that old vineyardists knew such impressions to be fallacious, but telling men so did no good—they wanted to try it themselves.

Neighbor P. said a man who did not love plants and trees for themselves could never succeed in growing them. He believed there was a close sympathy between plants and mankind, proof of which he thought could be daily seen in the fact that no one who really loved flowers ever failed to make a plant grow, while their neighbors without such love, but with ambition to have their yards look nice, often failed. Neighbor P. is a sort of Spiritualist, and looks forward to breathe the perfume of flowers and enjoy the aroma of good fruits forever.

Neighbor S. said, to change the subject, he wanted to tell them a little about one of his friend's pear-trees. From neglecting to take away the mulch, very many, if not all the trees in his orchard were completely girdled near the ground by mice, and he supposed he had lost them. It was a great loss, as many were bearing finely.

I suggested that a little labor and care would set that all right in one season, and put the trees in as good condition as if the mice had never been near them; that it was to be done by grafting. Select a warm day in February to cut from some thrifty, vigorous, growing pear-tree healthy, strong shoots, sufficient to make about six grafts for each pear-tree to be operated on. Lay

these away, the lower ends in sand, in a cool, dark cellar, until the frost is out of the ground. Then go at once to work, as follows: Pare the wound made by the mice smooth, cut away all ragged ends of bark, then prepare a graft by measuring its length two inches longer than the spaces between the bark on the tree where eaten by mice. Make each end of the graft in form of a wedge, but one side, that which is to fit next the tree, less sharp or tapering than

FIG. 22.

the other. [See drawing.] Next, having the bark on the tree around the wound trimmed neatly and smoothly, take a piece of flat, smooth bone or ivory, like a common paper-cutter, or the end of an old-fashioned budding knife, and raise the bark at the upper and lower sides of the wound on the tree, just sufficient to enable you to push the graft carefully under at each end, about one inch. Continue this insertion of grafts until you have four, six, or more, around the body, according to its size; the distance between each graft never being over two inches—if nearer, still better. Then wrap the whole with strips of cloth about two inches wide, to keep each graft securely in its place. Then paint the cloth over with warm, not hot, grafting wax, and finish by drawing a mound of earth up

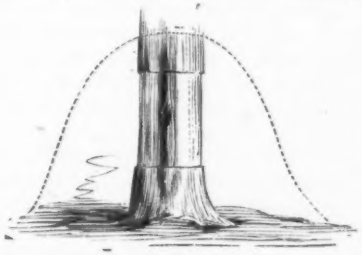

FIG. 23.

around the whole, and, say, two inches above it. The accompanying figure shows the position of a graft when set, and the dotted lines outside, the lines of the mound of earth. Some practice cutting one side of the graft the whole length, and laying it on smooth and even; it may be better, but I have succeeded when doing as I describe. I will also say that I have often filled up a gap, or the want of a limb in a young pear or apple tree, by inserting a side graft in early spring, at the point where I wish the limb. The rough drawing here shows the

FIG. 24.

graft when set. I take a scion that will leave me two good buds after being trimmed for setting. I then form *one* end just as I have shown for recovering the pear-trees, cut the other an inch beyond the bud, the cut sloping toward the opposite side, make a horizontal cut across the limb or body of the tree where the graft is to grow, of about one inch, raise the bark carefully with my piece of smooth, thin bone or ivory, and press in my graft downward, tie it securely with bass matting, and then cover all with grafting wax, so that neither air nor water can reach the wounded parts.

Neighbor K. said he had a great love of pears, and faith sufficient in the practice of growing them as dwarfs to plant out some hundreds the past spring, but that the blight was a matter that troubled him. He had lost by blight quite a number of trees only planted in spring.

Neighbor B. said he had also lost from last year's planting, but that he had mainly attributed his loss to too deep planting, and water standing around the roots. Others, however, he noticed, had lost, who had no such cause, and he therefore queried whether blight was not preconceived from

injury the previous winter, rather than from atmospheric influence of the growing season.

Neighbor H. said he thought blight was in great measure attributable to influence of the temperature of the previous winter. In planting some hundreds of trees the past spring, he noticed occasionally one with a little black spot of bark on it, and, as the season advanced, the dark spot spread, until midsummer found all such injured trees dead.

Neighbor S. said he was about washing his trees with a weak solution of salt in water. Should also try some other things, as copperas, sulphur, etc., and watch the result. He had a great deal of faith in manuring with salt and plaster Last year he manured some of his trees with hen manure, and some with salt and plaster, and while he had a little blight among those manured with the hen excrement, he had none with those where salt and plaster had been applied.

Neighbor P. — but, perhaps, Messrs. Editors, I have written enough of my neighbors' sayings for once, and, as I am not much accustomed to writing for publication, I may have made up these sayings in an erroneous manner—for while I have put them as if my neighbors had been gathered together, and chatting with me, the fact is, they are their sayings as expressed to me only at various times.

HARDY PERENNIALS.

The rural flower-garden, where little labor can be given, and that generally from those of more zeal than knowledge of the cultivation of flowers, is best made up from perennials. As a rule, any good garden soil will serve to grow them, and should their culture be neglected a week or more, they are very accommodating, and instead of dying off, they exert themselves to rise above the surrounding weeds and shame their owners by their bloom into more careful attention and culture. Time was when a hundred or so comprised the list of desirable perennial plants, but now the number is so extended that to know and understand them all, one needs to devote all his time. We shall not attempt to enumerate even, much less to describe, all the sorts, but confine ourselves to remarks on, and names of, a few varieties that are always to be depended upon, and that may be obtained at any florist's. We say we will confine ourselves to varieties that are always to be depended upon, and yet here, at our first start, we place a plant, the *Dodecatheon Media*, that is hardy, and yet sometimes, from too much wet, or too much dry, when flowering time comes, is not in its expected place. It is, however, so pretty, with its stem of twelve rosy lilac flowers, that we should dislike much to omit it. Many of our readers, doubtless, know it as American Cowslip, and also know that a light loam and shade suit it best. A mark or label stake should always be placed near it, otherwise, when out of flower, it is liable to get dug or hoed out and lost.

The Columbine—*Aquilegia*—found wild in many parts of our Eastern and Middle States, especially in rocky, romantic sections, has been increased and multiplied into many varieties, all of which are truly beautiful. A rather poor soil gives the best flowers.

Campanulas, or Canterbury Bells, of which there are now numerous varieties, adapt themselves to almost any soil or situation. An old variety, called *Pyramidalis*, yet remains one of the best, frequently in good deep rich soils sending up flower stems six feet or more high, and covered with blue blooms from top to bottom. Many campa-

nulas are biennials, and require to have seed sown every year in order to produce the best of flowers the succeeding season.

Clematis.—No garden can be said to be even partially complete without one or more of the clematis family. All are free growers, twining and climbing upon anything near them which offers a support. The flowers are mostly white, very abundant in August and September. Although deemed hardy, they all succeed better by being slightly covered in winter with some coarse litter.

Coreopsis Lanceolata is a perennial of so easy culture, and producing such a continued succession of flowers from early to late in the season, that although not generally esteemed as very handsome, you can not well do without it.

The *Delphinums*—common name, Larkspur—is a family varying exceedingly in its habits of growth as well as in its flowers. The Chinese—*sinense*—is slender, resembling the annual larkspurs in foliage, having blue and also white flowers. It is the best for small gardens.

Dianthus Barbatus, or Sweet William, although not a perfect perennial, yet often continues from year to year, and is so easily raised from seed, and so pretty in its endless varieties of colors in the flowers, that it must be, and generally is, in every garden. Choice seeds are imported each year, from which beautiful varieties are produced.

The *Iris* is a family of tuberous-rooted plants that are easy of culture, and bloom freely, with flowers of all colors, white, blue, yellow, etc.

The *Lychnis Floscuculi*, or Ragged Robin, is an old plant, common in every garden, and universally admired.

The *Lychnis Chalcedonica*, or London Pride, is another equally, perhaps, as well known and appreciated. Besides these, the varieties Vesicaria plena, and Vespertina are desirable. Of recent introduction is one called *Haageana*, said to be of dwarf, slender habit, with bright orange scarlet flowers nearly two inches in diameter, a free bloomer and showy.

The Oriental Poppy, *Papaea Orientalis*, is one of the most magnificent of perennials. We have seen people leave their carriages at the roadside attracted by its splendor, and walk some distance in a gentleman's grounds to examine it. There are several other perennial popples, some with white and some with yellow flowers, but while they are good, the Oriental is indispensable.

Phlox.—Of perennial Phlox the number of varieties is almost countless, and embraces nearly every shade of color and imaginable variety of arrangement in the flower. We shall not here undertake to designate any particular varieties, only saying that every one grown at this day is good, and that when you have one growing, you will soon find room for more. To bloom freely, the Phlox requires a deep, rich bed of soil, and rather moist than dry.

The *Pyrethrum*, or Double Feverfew, although not strictly a hardy perennial, yet with a slight protection in winter stands admirably, and its constant succession of small, pure, white double flowers from June to October makes it a plant of the greatest value for bouquets, wreaths, etc.

Spireas.—This is a family of which there are a number that are herbaceous perennials, and a still larger number that are shrubs. Among the best of the Herbaceous are *Filipendula plena*, dwarfish, and with double white flowers from June to October; *Palmeta*, with strong stems four or more feet high and large clusters of red flowers in July. Rich, deep, and strong, rather moist, soils produce the finest flowers and greatest quantity.

Veronica, or Speedwell, is a class of plants apparently suited to any soil, furnishing white and blue flowers in profusion in June and July. *Virginicum*, *Siberica*, and *Speciosa* are three of the best varieties.

The Yucca, or Adam's Needle, is a class of evergreen plants that although mostly natives of warm climates, nevertheless prove perfectly hardy all over our Northern States. Occasionally a winter blackens a portion of the leaves, but as a general thing they re-

main green and fresh. They are free to flower, and the height of their stems and abundance of flowers are greatly regulated by the depth and richness of the soil in which they are grown, a moderate or rather poor soil giving only stems of about two feet high, while deep, rich, strong soils give to the same plant a height of stem varying from five to seven feet and proportionate additional abundance of flowers. The flowers are white and bell-shaped. For points in rock-work planting they are well adapted, and also in forming groups of evergreen shrubs. We have seen masses of them in position on a lawn prove very effective.

As we have before said, all these that we have named, and many more varieties, can be obtained of nearly every florist or nurseryman at comparatively low prices; and those who are often unfortunate in growing annuals, or have but little time to devote to the flower-garden, we advise to give attention to perennials, believing that in their culture satisfaction and enjoyment are to be found.

QUINN PEAR.

Several specimens of this pear were handed to us by P. T. Quinn, of Newark, N. J., on Jan. 2d, who stated that the fruit had been kept in an ordinary cellar, without any particular care having been taken to preserve them beyond the ordinary time of their maturity. Some specimens were still hard, while others were in fine eating condition. The fruit is small and not particularly attractive to the eye, but the quality is unsurpassed among our winter pears, and will compare most favorably with the best of our autumn varieties.

Fig. 25.—*Quinn Pear.*

A committee of the Farmer's Club of the American Institute, consisting of Dr. E. Ware Sylvester, Wm. S. Carpenter, and John Crane, made the following report upon this pear, which was read by the chairman, Dr. Sylvester, at their meeting, held Jan. 2d.

"The Committee on the Quinn Knight Pear (which had received its name by a vote of the Farmer's Club at a previous meeting) respectfully report:

"'That they have examined the pears, and the trees upon which they grew. The tree was imported by the late Prof. Mapes about sixteen years since, without a name, being labeled as one of Knight's Seedlings. It was placed in the front yard, among the evergreens, and has not received the care usually bestowed upon fruit-trees, yet it has made a fair growth.

"'The fruit is below medium size, the larger specimens measuring six inches in circumference; shape, pyriform, tapering rapidly toward the stem end; calyx, shallow,

inserted in a regular basin; skin, thick, inclined to golden russet. The pears are in good perfection now (Christmas), and Mr. Quinn thinks its season is from the 1st of November to the middle of January, with ordinary care. They are rich and juicy, free from grit, and in flavor and aroma occupy the first rank. It is, in fact, a Winter Seckel; and if on trial it shall prove adapted to our climate, it will be a very valuable acquisition to our winter pears.'

"Mr. Quinn objected to the motion to rescind a part of the name, inasmuch as he was not the originator of the pear, but only the cultivator of the tree. He desired to retain the original name—Knight's Seedling.

"N. C. Meeker said he was decidedly in favor of short names for pears. A great many people dare not sometimes pronounce the long names of pears, because they are so hard.

"It was then voted that the pear be called the Quinn Pear.

"Solon Robinson said he thought it the best winter pear that has ever been exhibited at this Club. A few specimens were distributed, which were really delicious."

CORDON TRAINING.

Although an old practice in France, we believe training trees *en cordon* has been but little practiced in this country. For the purposes of testing a great variety of fruits in a small compass—for covering a trellis, thereby forming a screen—for growing varieties that require shelter from late spring or early autumnal frosts, the system of cordon training is undoubtedly a valuable method of practice. As there are many who have never seen a cordon trellis, or know anything of the manner of its practice, we will present it a little in detail. First, then, a trellis or lattice-work is to be erected, by planting stout posts and nailing thereto horizontal rails, usually three in number. See our figure. To these, horizontal bars, vertical curved slats, or strong wire are nailed or secured at distances of about one foot apart, and at each upright curved slat or wire a tree is to be planted, and its main trunk or body fastened to the

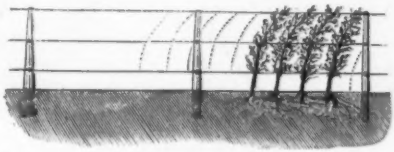

Fig. 26.

slat. Every limb is then to be shortened back to within two, three, or four buds from the main stem, and as the trees grow, these are to be from time to time pinched or cut back, until the whole body is a continuation of fruit-bearing spurs. If too vigorous growth occurs, then the roots are to be cut off within a foot or so of the body of the tree, by means of a long, sharp spade. Our figure shows the trellis in its various stages, and with four trees planted and trained. The first expense of this method is greater than the usual one of espalier training, because of the additional number of trees required; but as it takes a much less time to bring the trees into a productive bearing condition, and as it enables one to grow a number of kinds of fruit in a small compass, it pays well for the additional first outlay.

BEZI DE CAEN.

FRUIT—Size, medium; form, oblong, pyriform; color, dull brown; skin, smooth, russet on a greenish yellow ground, scattering suffused dots of irregular size, and form dark, almost black, russet spots depressed; flesh, white, fine, granulated, melting, juicy,

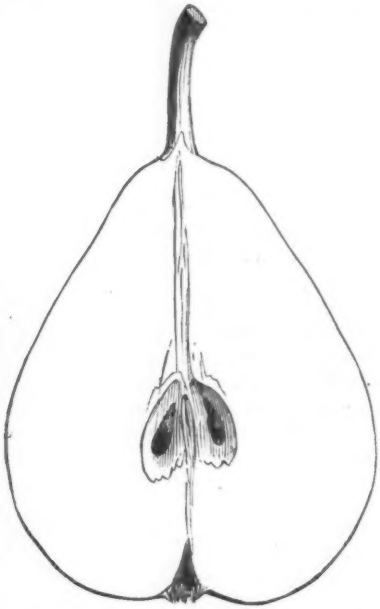

FIG. 27.—*Bezi de Caen.*

sweet, a very slight astringency, aromatic, perfumed; "very good;" stem, moderately stout, set without depression; calyx, small, with irregular, wavy, connected segments; basin, regular, shallow, smooth, and even; core, small; seed, small, plump, globular, acute, pyriform; season, December. The Bezi de Caen is a firm fruit, tree a good bearer, and promises to be of value as an early or mid-winter pear.

LUDWIG'S BIGARREAU CHERRY.

THE above is a new cherry figured in the London *Pomologist*, as having first fruited and been introduced by Mr. Rivers, of Sawbridgeworth. It is described as being long, heart-shape in form, bright, clear red in color, pale yellow, half tender juicy flesh,

FIG. 28.—*Ludwig's Bigarreau Cherry.*

and ripening early, or about the last of June. Judging from the figure and description, it gives little promise of value in this country.

ALIDA PEACH.

MESSRS EDITORS: Accompanying I send you a drawing of a seedling peach originating with Charles Carpenter, Esq., of Kelly Island, O. Mr. Carpenter writes me that it is "doubtless a seedling of Crawford Late, quite as large, much darker, red cheeked, and nearly round. Flesh dark yellow, rich, juicy, excellent." The drawing I send was made by a son of mine, and does not give the size as large as Crawford Late. I have never seen the fruit, and only send this as a record that pomologists may have it when the fruit comes to be exhibited, as I learn from Mr. Carpenter it has been disseminated.

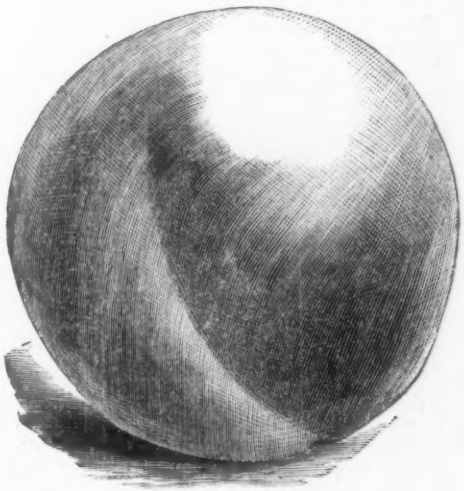

FIG. 29.—*Alida Peach.*

F. R. ELLIOTT.

INDIGESTION.

BY JOHN ELLIS (FOX MEADOW).

INDIGESTION may be the result of two causes—first, a diseased state of the stomach, and, secondly, by passing into a healthy stomach some cartilaginous substance which is not naturally adapted for it. In the former case, we may call it a perpetual disease, in the latter, spasmodic. It is this *spasmodic* indigestion, Mr. Editor, that your humble servant is sometimes troubled with; and as we are just now suffering in the stomach, and can not possibly digest one or two bony horticultural substances, we, in our present painful condition, apply for the soothing balm of horticulture, whose disintegrating action on the stomach may dissipate the bone and give us relief. In your December number, page 366, we read as follows:

"We know from the very interesting experiment of M. de Comini, near Botzen (Tyrol), that the germs of the oidium lie, during the winter, dormant in the brown bark of the canes of the vine. He cut, in November, canes with dark spots, the effect of the oidium spores, and kept them in pots, filled with sods and horse manure, in a warm room. After seven weeks the oidium appeared on those black spots, and covered, in a short time, the whole cane so treated."

From the above extract, the inference seems to be that the oidium is produced by spores of the previous season, which live over the winter, and, by the influence of heat and moisture, burst forth into existence, and grow and flourish on *hard brown wood* just as well as on the green and tender. Dr. Walsh, in the "Practical Entomologist" of the December number, in answer to some queries of Dr. J. S. Houghton, in relation to the "bark-louse" on his fruit-trees, says they are produced from eggs of the previous season. This we know is true; but the question is, do not myriads of these insects come into existence without previous fathers and mothers? Is there no oidium in existence without springing from the sporules of father and mother oidium? Why not contend that all the colds and coughs that our humanity is heir to are produced from a sporeal or fungoid ejection from and belonging to the order of Mammalia? Are there no plants in the world that come into existence without a prior father and mother? Has the great Father of all things ceased creating? Not at all, nor never will, so long as matter exists. Watch, in the summer time, a piece of shallow water, and note the slow but sure development of the thin, transparent vegetable mucus, extending globule by globule till it covers the whole surface, and on a spot, perhaps, where never water was before, nor aquatics ever grew. Go to the stone wall you built a year ago, when the face of the stones was all clean from vegetable life, as a sheet of white paper, and see the beautiful foliaceous expansions, growing onward and upward to higher orders. Are they the offspring of a *prior* father and mother, or the spores of some defunct cryptogamia of the order of Algæ? Some years ago we dug a hole, several yards square, in a swamp that had been drained to the depth of four feet, sinking some four feet below this; the water burst up like a fountain from the *bottom*, and the operation was suspended. No water could possibly get to this excavation but the rain and that which burst in at the bottom;* a brook ran through the swamp, but not nearer to the point in question than three hundred and fifty yards. In six months' time this hole was nearly alive

* In swamps, the pressure of the surrounding matter will cause the water to burst up in this manner.

with small pickerel. This fish is considered a fresh-water inhabitant, but they are alive there to this hour, and constantly increasing in size. How did they get there? From whence came the prior father and mother? On showing this place in question, with its fishes, to a medical gentleman, and an intimate friend of ours, and wishing him to solve the mystery as to how the fish got there, he replied: "Why, there is nothing more simple, for," said he, "yonder is a brook—that brook contains the spawn or eggs of the pickerel—this swamp in its very nature is open and porous—the water from the brook percolates through this spongy muck, and of course the spawn of the pickerel comes with it—nothing more easy or simple." "But," we replied, "if this be so, why do not the spawn of the trout, sun-fish, jack-sharps, and the suckers get through in the same manner?" "Are there no other fish but pickerel in this hole?" None whatever." "Then it is very strange," said the doctor; and so ended the subject: and we are sorry to say thus ends investigation by scientific minds when such a fact ought to lead them on to investigate cause and effect. Were there no insects brought into existence but what had fathers and mothers, we think we should not have half the trouble to get rid of them. Why, are clean shirts worn for no other cause than merely to look nice? or is it absolutely necessary to the prevention of the generation of some of those parasitic insects of the genus Pediculus? Where do the prior father and mother come from? Where are the prior father and mother of the wonderful Washingtonia gigantea? By what breeze and *from where* were the seeds wafted to California? What does "indigenous to the soil" mean? Similar thoughts and questions apply to mildew or oidium. We disbelieve the doctrine that the oidium is produced from secreted sporules of prior father and mother in the dry bark of the vine, and we also disbelieve the possibility (under natural conditions) for sporules to develop, grow, extend, and cover a piece of *ripe cane wood* of the previous season. Were such actually the case, we question if we should have to-day a living vine in America, excepting those wild foxes of the woods. That M. de Comini performed the experiment as quoted, we believe, but as far as the oidium is concerned, we believe him to be mistaken. The sods and horse manure put together will do what any horticulturist knows it will do, and that is, produce a fungoid growth, and had M. de Comini stated that the result of his experiment had terminated with a fine crop of mushrooms on the vine stick, we should be inclined to place more confidence in it than we do in the statement of the oidium growing over and extending along a piece of *ripened wood* of the vine. Our opinion is, that no man ever saw such a thing, nor ever will This and the lightning theory as the cause of rot in grapes, are on a par, for we know full well, numbers of us, that there are locations even in our changeable climate of America where no rot is found. Look, for instance, in California, where our fine exotic Hamburg, and Muscat of Alexandria, and Cannon Hall Muscat are sold in the markets of San Francisco, grown in the open air, weighing six and seven pounds! Still, we believe it thunders and lightens there? But what do they know of *rot*—the rot of the Northern States? Nothing at all. Why not tell us, Mr. Editor, that all the grape-rot oidium, with a host of other indigestible horticultural matter, are the result of the action and influence of MOONSHINE?

From whence sprang the prior father and mother of that nondescript (half elephant and half something else) figured in the *Gardener's Monthly*, having been sent to the editor of the latter-named journal by Dr. J. S. Houghton, who, after many a day's hard chase, succeeded in catching the monster in his orchard, and after binding the animal's feet and legs thoroughly, and securing the jaws of his monster head, caged it and sent it to the office of the *Monthly*. We think the Doctor should have sent it to

Barnum, and had it placed in the menagerie of wild beasts. However, if this monster ever had a father and mother, there still remains a chance for Mr. Barnum to procure a living brother or sister of this monster Leviathan, "who goeth down in the deep" of the Doctor's pear-trees, "eating great holes in their sides, and gnawing the skin in a most destructive manner!"

But though this monster may appear
So hideous with its paws,
'Twill catch, perchance, the oïdium,
Like the whale—with open jaws;
For every change that nature brings,
With deepest good is fraught,
Though oft her motives lie beyond
The grasp of human thought.

WHITE PLAINS, *January* 10.

CULTURE OF THE APPLE.

BY ISAAC HICKS, L. I.

WE hear from many portions of the country a general complaint of the failure of the apple orchards. Apple-trees are not growing and bearing as well as in former times. The climate, or something, has changed. What it is we can not tell, but orchards don't do as well as formerly. There must be a reason for this, and let us look around a little, and perhaps we may find the cause. Has the climate changed in the last century? Do we not have the same average temperature, and the winds blow from the same direction, only, perhaps, with more violence, from the great destruction of forests? We can perceive no difference in the elements of the air; but has not the mode of culture changed from what it was? The country then was new and rich from the decay of wood and leaves for countless ages. The soil abounded in the requisite food for the production of fine apple-trees then, and they grew and bore satisfactorily. Since then, by a long course of cropping, we have exhausted the potash and other elements of fertility to a great extent, and can we expect the trees to grow as formerly? Is there an instance where an orchard has been planted in virgin soil before it was exhausted by long cropping, and proper care taken after planting, that did not thrive luxuriantly? It is our opinion, that if we feed the roots of the trees with what they require, they will grow now as well as ever. But we are too covetous of latter times; too many of us want two crops at the same time, and, of course, one or both will suffer by it. We want a crop of grain or hay and a crop of fruit, but do not give a double amount of manure to produce them. We cheat the trees, and lose by it ourselves in quality and quantity. The most successful orchards we have seen have been cropped with hoed crops, and when young, manure applied sufficiently to produce remuneratively. When the trees became large enough to not require this annual stirring of the soil, they were left for grass to grow till the trees so shaded the ground it was impossible. The period an orchard of apple-trees may be plowed safely will differ according to the rapidity of its growth, say from twelve to fifteen years. It is evident that when trees are of large size, the plow will tear up a large number of surface roots, their most valuable feeders; hence we infer that plowing old orchards must be injurious, and by this destruction of roots which will have to be renewed every year, and if continually broken off, the trees are prematurely exhausted and will be short-lived. If all the grass or weeds are mowed and allowed to remain, they afford a fine mulch and help enrich the soil; and if in addition a dressing of manure, straw, or

stalks is added occasionally, and nothing but the fruit taken from the orchard, we think there is no reason why they will not bear and grow as well as ever. Some varieties of fruit once grown successfully now fail, and we are at a loss to assign a reason. The old Vergalieu or White Doyenne was the best pear we had in our boyhood, and the Bellefleur and Fall Pippin and a few others are poor bearers in many places now. What it is that gives the flavor and makes the same stock, where several sorts are grafted on it, give such entirely distinct fruit, we can not understand, any more than why they yield poorly now. Some small trace of a mineral in the soil has probably since become deficient, and the roots can not substitute any other substance to replace it. But we need not grieve too much that we lost our old favorites, as the soil that refuses to grow them to perfection will yield us plenty as good or better than they ever were, of newer kinds. But when shall we have fruit on our young trees? is a question often asked by the timid. It is a difficult question to answer, for trees receive such different treatment, and some bear earlier than others. Too much stimulating is not favorable to early bearing generally; but it is better for us that our trees do not bear early, if we do feel in a hurry. We have had apple-trees bear good crops when eight years of age; but it is safe to estimate that, with good attention and culture, a small crop equal to three or four bushels to a tree will be borne when they have been planted ten years. We know of an orchard of 500 trees, planted about fifteen years, that bore in one year 700 bushels of apples. Other orchards may exceed this, but we think too few have attained to this amount. Some are discouraged from planting by the report of the great increase of insect enemies to the trees and fruit. Even if there are more, fruit sells at a much higher price, and we can afford to take more time and spend more labor than formerly in combating them. The price of apples, as well as other fruit, is greatly enhanced from what it was forty years ago; and from the too apparent neglect in setting out young trees, we believe apples are destined to still higher prices in the future. There are but few pleasanter sights in passing through the country than a handsome, thrifty orchard. Somehow, we form a higher opinion of the owner's intelligence; we expect to find him in good standing in the community; and the reverse of his next neighbor, whose moss-covered, neglected apple-trees cast a feeling of desolation and sadness on all around. And there are but few trees more beautiful than a nicely grown apple-tree in full bloom, nor a more enjoyable sight than when laden with its crimson or golden fruit in autumn. Therefore we advocate planting the apple-tree. You may plant the grape by the million where the soil suits its growth; strawberries by the acre, or pear-trees, too, if you wish, but don't forget the apple, if you love the enjoyment of your family, your profit, and your health. We like to plant trees pretty close together, for the reason that they will shade the ground more perfectly and prevent the weeds or grass from growing when they have arrived at maturity. Nothing else should be expected of an orchard than to bear fruit for us when large enough, and we should plant accordingly. Some kinds, that are low-spreading growers, like the R. I. Greening and Roxbury Russet, will require more room; but from our observation, twenty-five to thirty feet should be the limit for all varieties. We do not like long, naked stems to our trees, peering up nine or ten feet without a limb, indicative of long ladders and bruised fruit. Standing on the ground and picking apples is so much easier, or on short fruit ladders, and if they quit their hold before we wish them, they scarcely receive a bruise when fallen. And another advantage to the low heads is, they shade the ground and keep it moist. During that hot spell last summer, our low-growing trees suffered much less than those that grew erect—indeed, they scarcely felt it.

NOTES ON THE DECEMBER NUMBER.

With this number closes the year of 1866—a year, perhaps, of more promise and disappointment than usual; but while we have had, comparatively, a small crop of fruits, yet in many sections they have been better than usual, and we are now commencing winter with all our wood of grape, pear, etc., perfectly matured, and consequently the tree or plant in good condition to endure changes of extremes in temperature, should they come.

Before making my monthly comment on the productions of your correspondents, permit me to say that, although I have monthly read their writings, yet I am, like all mankind, a little forgetful, and not until I opened this number to your list of correspondents did I realize how strong a body-guard you had. Without designing to flatter you or them, I think I may say no magazine has a more truthful as well as practical list of writers.

Nearly all are conversant in practice with the subjects of which they write, and such writings are just what the country wants, rather than the compilations, readable though they may be, of office authors.

The Orchard.—The writer justly advises good cultivation of orchard trees, and especially young trees. There is, however, a medium to be observed; for if young trees are stimulated too highly, their duration of life is certainly reduced. All trees should grow steadily, healthily, and so that the wood ripens perfectly clear to the tips of the young branches. Two extremes are to be avoided, viz., neglect or poor culture, so that moss, etc., accumulates, and the overgrowth, carrying the tree into late autumn with green, unripe wood at tips, and all of it, perhaps, soft and spongy, with a pith like the elder.

The writer speaks of large orchards (as ten acres), and of the long time requisite to bring an apple orchard into bearing. Let me advise him to take a trip into Illinois, Indiana, and other Western States, and there see the apple orchards of four to six hundred acres each, and bearing good-paying crops at the expiration of four years from planting. If he wants to see peach orchards, let him go to southern Illinois, or the south shore of Lake Michigan, where he will find the extent even rivaling that of the Delaware Country.

Rural Architecture, No. 19.—This is a pleasing, yet plain design. I like the hoods and the bold casings of the windows, but no diamond panes of glass for me. They may do for a dark old English cottage, but American people like the light.

Grapes in Kansas.—Has not Mr. Burns got a little mixed up in this matter? As I read the views of the Lake Shore Grape-Growers' Association relative to grape disease, it especially applied to the *rot*, and not to mildew.

Ives' Seedling Grape.—A good illustration. I have seen larger bunches, but as a rule, I think they range below rather than above this representation.

Ladies' Eardrop Apple.—A curiosity, perhaps, and as such, therefore, well enough to figure it; but certainly no fruit-grower of common sense will cumber his ground with a tree of a fruit that is good for nothing but to look at, when there are plenty of sorts like, for instance, the Lady Apple, which are both beautiful to look at and good to eat.

Willis Sweeting.—This is a good baking sweet apple as I know, but I should be unwilling to class it, as Mr. Hicks does, as the "best baking sweet apple known." One thing let me suggest to Mr. Hicks, as well as all other delineators and describers of fruits, and that is a more perfect description. Always, if you can, give us all the particulars of form, color, etc., of the fruit,

and then its history, the character of the soil in which it is known to succeed, the habit of growth of tree, color of wood, etc. These are all points looked at closely by the careful pomologist in deciding him as to what to plant.

Street Shades.—The recommendation of the English elm is good. The writer might have added that it is a very free grower; and any person who chooses to visit the grounds of Charles Downing will see trees of it, now only about twenty-five years old, that many have estimated at from sixty to one hundred years. As I notice you are to give us descriptions of other trees, I will not forestall you; but, nevertheless, I will mention the Linden as one that has clean broad foliage, is of rapid growth, and valuable as a country street shade. Some years since it was badly affected with worms, and its foliage denuded early in the season, so that its use was abandoned; but for many years past I have seen no indication of the pest, and again hope to see it planted freely.

Mr. Neubert and the Essential Oils against Grapevine Mildew.—An explanation for which we are obliged.

Retrospective of the Past Season.—In most of this retrospect you are correct; but perhaps in saying that the crop of grapes has been good, you have partially erred. True, they have ripened up well, and so has the wood, but the crop has been light, comparatively.

Sulphur and Essential Oils.—Here Viticola tells us when to use, and we shall be glad to learn the result of trial the coming season; and if the old saying of "an ounce of prevention is worth a pound of cure" is correct, we see not why this may not be the ounce wanted. Let us try it.

Letter to Hugh Blank.—A pleasant letter; but the writer, I think, errs in classing the men who have gardeners, etc., as the "horticultural lighthouses." As a rule, I think it may be said our most enthusiastic horticulturists are those who do not hesitate to graft, bud, and plant with their own hands. I have seen many a zealous horticulturist set his choice trees and grafts personally, even when his gardener stood by. Many a choice fruit and flower of beauty and perfume grace our lists that owe their origin to the labors of the zealous, independent of show, working ruralist, and not to the pretended scientific professional gardener, who learned his art in the employ of the Duke of Cabbage, and can find nothing in this country as they had i in "hold Hengland."

Salt as a Remedy for Pear Blight.—Thanks, Viticola. My pears are mostly dwarfs; and with the belief that salt is one of the agents to success where the quince root is used, I have used it. I am now thinking of dressing my orchard with bone meal, salt, and plaster—say, to the acre, one bushel of plaster, four bushels of salt, and four bushels of bone meal. What do you think of it? Reuben.

EDITOR'S TABLE.

To Contributors and Others.—Address all Communications, for the Editorial and Publishing Departments, to Geo. E. & F. W. Woodward, 37 Park Row, New York.

Monthly Calendar.—We have had several requests to publish a Monthly Calendar of Fruit, Vegetable, and Flower garden operations. We are obliged for any suggestions for the improvement of our journal, but in reply to this we must beg our friends to remember that a monthly calendar would be merely a repetition from year to year, and would occupy space which we hope to be enabled to fill with some new suggestion or notice of tree, fruit, or flower, etc. In our "Table," we intend from time to time to give brief hints of such of the most important items of labor as are requisite in horticultural pursuits, and especially of such as at the time seem to claim a large proportion of interest.

By so doing, we believe we shall better serve the end for which we write, viz., advancement of all the arts of rural life, than to occupy two or more pages with stereotyped monthly calendarial instructions.

Herbemont Vineyard, Warsaw, Ill., *September* 18, 1866.

Messrs. Editors: Since writing the letter on transplanting, published in the September Horticulturist, I have been experimenting with strawberry plants, and find that they can be transplanted during the hot months of June, July, and August, equally as safely and as well as in spring or fall. From July 1 to August 31 we have had unusually hot and dry weather, even for the Valley of the Mississippi, yet every week I have planted strawberry plants, from twenty to thirty each time. Some of the plants, in fact nearly all, were planted when the soil was as dry as it possibly could be—not a particle of moisture in the surface soil, and after some of these plantings not a drop of rain fell for four or five weeks—yet they withstood the burning sun, *without protection, without watering, or checking their growth in the least.* I have not lost a single plant up to this time; and those planted first have thrown out runners covering nearly as large a space as the runners of plants set in the spring in the usual way.

I have chosen for my plantings the warmest part of the hot, clear, sunshiny days; and if well set, with plenty of water, the plants never wilt.

In a letter written me by Mr. H. Paddelford, of Carondelet, Mo., who is somewhat celebrated as a grower of small fruits (written since the reception of the September Horticulturist), he says: "In July last, during the hottest weather of the season, I set out two thousand (2,000) strawberry plants in the same way as mentioned in your letter, with this difference: that, in place of drawing the dirt into the water, I dropped it gradually around the plant until sufficiently thickened up to hold it firm; then cover with an inch of dry dirt. A drouth prevailed at the time of setting, and continued five or six weeks, yet they withstood the scorching sun without protection, or watering, or in the least checking their growth. I have set out many hundred plants, but none looked as well. I take up a plant, shake the dirt from its roots, and set it out on a hot, scorching day, in the full glare of the sun, without wilting or in the least checking its growth. Few are prepared to believe this; but, nevertheless, it can be done, with the leaves remaining as erect as when standing in their original

bed. This plan, to those largely engaged in transplanting, will prove very valuable—no other will compare with it."

Such is the testimony of Mr. Paddelford in its favor; and my own experience has proven, beyond a doubt, that any healthy plant, from a strawberry to the largest fruit-tree or evergreen, can in this way be planted, with the doubt of its growing removed from the mind of the planter who has never before set plants or trees in this way. No one who tries it once will ever plant in any other way. Out of thirty-four large evergreens, I planted thirty in this way, and four without water. The thirty are all alive, and have made a good growth; two out of the four are dead, the remaining two made no growth, not even starting to grow. Several persons who had trees out of the same lot have lost nearly all, so have they their fruit-trees, while none of mine have failed to make a large growth. As for the Delaware grapevines spoken of in my letter, transplanted from hot-beds into the open ground in June, I measured some to-day, that we pinched back two weeks ago, that averaged four feet—one had a cane eight feet high; and my Iona and Israella have canes averaging six feet. I will send some specimens to Messrs Woodward, that they may see for themselves. I am anxious that all horticulturists, and all others who have a tree or plant to set out, should try this method, for I know it will prevent much vexation and disappointment.

I would like to say a word for the Iona, Delaware, and Israella, I see so many writing about them. For instance, a writer says, in the *Prairie Farmer*, that his Iona and Israella made a growth of from one to six inches. I wonder what kind of plants he had, or what care he gave them. Another says the Israella is tasteless. Now, I have planted hundreds of each, and no vine is more healthy, hardy, or makes a larger growth than the Iona or Israella, or the Delaware either, at least on my own grounds. This year I have one hundred and fifty Delaware vines bearing for the second time (third year in vineyard). I have picked and marketed them, and the vines averaged fifteen pounds each of the most perfect fruit. My Iona and Israella vines—this their first season of bearing—gave equally as much fruit. The Iona and Israella vines were a perfect picture of what a grapevine should be—the Iona loaded with its large, compact clusters, of a color peculiar to it alone, something like that of the Delaware, but more clear and pure, reminding one of the pure beauty of some precious stones (I don't know their name, but you get the idea). There is no grape that can compare with the Iona in beauty; then it is large, larger than the Catawba in bunch and berry; and in quality, none can equal it in purity and spirit. The Delaware has a more condensed sweetness, but has not the life. Besides these good qualities, it has, so far as my experience goes, proven to be as productive as any grape I have, not excepting the Concord.

What I have said of the Iona is equally true of the Israella, except that its fruit is black, with a heavy bloom; bunch large though not as large as the Iona; berry very large; the bunch very compact, more so than the Delaware; the quality of its fruit, when perfectly ripe, is excellent; it is very sweet, and free from any fox, or other bad taste; it has all the necessary qualities to make it our best early market grape, ripening here August 5th this year, when the Hartford could not be eaten two weeks later; very compact, so as to pack well; the berries never drop from the bunch; it is of good size in bunch and berry, which is very necessary in a market grape. I have clusters yet remaining on the vines that look as well as they did five weeks ago; and though we have had continued rain from August 31st, which has caused the Delaware and Catawba to crack badly and fall from the bunch, not a berry of the Israella or Iona has cracked or fallen. My experience is, that the Iona and Israella are as hardy as the Concord. Here, all varieties must be covered in winter to secure a crop. Last

winter, young vines of all varieties were killed, so were young apple-trees, hardy evergreens, and roses. That proves nothing, except that we must plant large, strong vines, so as to get them strong enough, and roots deep enough in the ground not to freeze out. C. J. MAY.

PHILADELPHIA HORTICULTURAL HALL.—This new building, now in progress of erection, is the largest of the kind in our country, being 75 × 200 feet, and will afford ample room for the displays of the Society. It is in contemplation to introduce a strong body of water into the building for the supply of fountains, cascades, etc. A narrow gallery will extend around three sides of the main hall, enabling visitors to look down upon the entire display. The ladies of the Society will hold a grand bazaar for the sale of floricultural and fancy articles on the 29th of May next, in the new hall, at which time the Society will also hold its spring exhibition of roses, strawberries, etc., the proceeds to be applied to frescoing and otherwise decorating the hall.

THE APRICOT AND NECTARINE are both fruits of great excellence, and we think we may safely say, so little cultivated that hundreds, nay, thousands, of persons, living in the bustle of life, both of town and country, and possessed of knowledge and general intelligence, do not know how they look or taste, never having seen one. The trees of both are as hardy as the peach, and we do not think the blossoms any more liable to be destroyed by late spring frosts. It is true the curculio preys upon them, but no more than he does on the plum; and as the fruit is, if anything, superior, and always commands more price in market, if it will pay to cultivate plums by destroying the curculio, then it certainly will pay to grow apricots and nectarines by using the same means to insure their ripening their fruit.

The practice of growing trees on trellises, although as a general thing not necessary for fruit-growers in this country, can be adopted profitably with varieties that require the careful watching and management of a true fruit-grower. While many fruits can be, and are, grown by the careless cultivator, he who understands himself should find most money in the cultivation of sorts that require skill, watchfulness, and care to perfect them.

FACTS ABOUT "PEAR BLIGHT."—For twelve years I have been successful in raising pears. Dwarf and Standard never suffered any from "blight." Last year, and some the year before, I manured a piece of ground heavily, on which there were about fifty trees in good condition. The ground was well worked, and this year I had the mortification of seeing two thirds of all those trees taken by the "blight," and nearly all utterly destroyed. Another piece, containing about forty trees in a clover sod, escaped entirely, not a particle of blight on any one of the trees in the sod, and more or less "blight" on nearly all of the trees highly manured and cultivated. A. F. S.

MOLINE, ILL.

EARLY PEAS.—As soon as the frost is sufficiently out of the ground to enable it to be dug or plowed, it is advisable to prepare for sowing peas. It is not requisite that the soil should be rich, but if deeply stirred and of moderate fertility, the crop will be abundant and long continued. Shallow soils and shallow planting give shallow returns, or, in other words, give dwarf vines, short pods, and but one or two pickings. Of varieties that we have found valuable, "Carter's Extra Early," or "First Crop," matures early and is productive. Ne Plus Ultra, Philadelphia Early, and Prince Albert are all good until "Champion of England" matures, with which we are satisfied, and continue its use by having succession of plantings to come along in due time one after the other.

ROOT-GRAFTING GRAPES.—Some cultivators are of opinion that the tenderness of our native grapevines is more attributable to want of energy in the root, than in the formation of a firm, well-matured vine. If in this there is any truth, then any variety, Allen's Hybrid, Adirondac, etc., may be grown just as successfully, and without protection in any section, as the Clinton, because the roots of the Clinton may be used to grow the other varieties upon by means of grafting. Root-grafting the grape is not a new thing, although when hardihood is increased thereby, one item will have been proved, in which as yet there are unbelievers. Many years since we practiced grafting on pieces of grape-roots in the house during the month of February, and packing them away for out-door planting in spring, in the same manner as with root-grafting of apples. We used pieces of roots from the common wild frost grapes, cut them about four to six inches long, and for our grafts or scions used well-ripened medium-sized wood, one bud to a graft, cutting it one inch above the bud and three inches below; this we inserted in the root; some in the usual way of cleft-grafting, and some by splice-grafting, tying with a strip of waxed cloth.

Late in spring, after the weather became well settled and the soil somewhat warmed, we planted out in the ground, so deep as to just cover the bud of the graft. This was our practice many years since, and we have since seen it repeated many times very successfully.

If roots should afterward start from the stock or graft when transplanted to permanent position in the vineyard, they can be easily taken off by removing the earth six or eight inches deep and using a sharp knife.

EARLY POTATOES.—Almost one of, if not the very first out-door seed planted in spring is the potato. Even before the frost was well out of the ground we have seen planters at work on land that had been roughly but deeply plowed in the fall. Of the varieties most desirable, there is no question that the White Mexican, or White Neshannock, as some call it, is best in quality, but it is not productive, and therefore to the market grower not profitable. To the person, however, who has land plenty, and wants early potatoes for his own use, there is not its superior, if indeed its equal. In West Jersey they grow a kind called Michigan White Sprout as their earliest sort, and by some it is regarded as a good sort; others object to it. Besides these, there is the Early June, Early Kidney, Cherry Blow, Monitor, etc., all of which, as well as others, have their friends. In planting, it is said that animal manures applied in the hill conduce to a watery character and poor flavor; of its truth we can not vouch, but in poor land we have no doubt of its increasing the crop. Experiments of years in succession have shown that well-ripened but medium-sized tubers planted whole, result in giving the most vigorous character of plant and the most even-sized tubers as the crop. Large potatoes, planted whole, give a few extra large potatoes to each hill, while cut pieces of one or two eyes each do not give at first strong plants, and hence are later in maturing, and too often when mature have too many small and valueless tubers.

MANURING TREES.—Too many, in applying manure to their fruit-trees, forget the position of the roots, and apply within a foot or so of the body. If they were to carefully remove the soil, they would find that trees of vigorous growth, and from seven to ten feet high, have roots, that are really the main sources of nourishment, varying from six to ten feet from the body. The application of manure, therefore, to give the best results, should be distributed around the tree from five to eight feet distant from the trunk. In positions where the turf is desired to be retained, cut and roll it back, put on the manure, fork it in lightly, and then replace the turf.

Early Tying up of Grapevines on the Trellis.—If there is anything in the theory, that great injury is often caused by extraction of moisture and evaporation when in contact with continual cold, then it is advisable to leave the vines lying upon the ground until after the cold, drying winds of March have passed. As the season advances, the circulation of sap increases, and in March there is more aqueous matter in the vine than in the month of January, and consequently it is more susceptible to changes of temperature, and is more affected by cold, drying winds; but to what extent injury is caused by continual cold, drying winds at this season, we will not undertake to say. There are those who believe the plant more often injured by the cold, drying winds in March or April than by any extremes of temperature during the regular winter months. Without attempting to prove or disprove the theory, we shall only say that our experience for some years has been in favor of leaving our vines on the ground until quite late in the spring. We have sometimes left them even until after they had bloomed and set their fruit, and once or twice we have thought that we escaped injury from frosts, and from cold, driving rain and sleet storms, by the vines being on the ground, we having plenty of fruit when some of our neighbors, whose vines were neatly and carefully tied up, were destitute.

Grafts, to be forwarded by mail, should be first wrapped in oiled silk, having the ends neatly turned over, and the whole tied securely with fine thread; this is to keep them from the air and from drying. Next, wrap the package in soft wool or cotton before placing it in a strong, thick paper envelope, for the purpose of preventing bruising while *in transitu*.

As the season advances, the heat in greenhouses may be increased during the daytime, remembering always, that at night it should be from fifteen to twenty degrees lower than during the middle of the day. With light, warmth is a requisite to healthy growth, but without light, its tendency is to render the plant tender and sickly, with soft, spongy, imperfect wood rather than that of a healthy character.

Coping to prevent Mildew.—A correspondent suggests that "one feature of action, in working of shelter overhead as a preventive of grape mildew, has not been touched, and that is, radiation of heat. It is well known that a plant radiating to the open sky cools off in half the time that another will when slightly sheltered by the projection of a wall. May there not therefore be more in the retention of heat, and more gradual cooling off produced from the coping shade, than in the prevention of dew? The value of these projections was known more than one hundred years ago, written upon, and practiced."

The discussion on Grapes, at the last Ohio Pomological Society's meeting, gave the Iona rather a bad character. Its hardiness was doubted, while a tendency to mildew and rot came forward as one of its characters in a majority of the reports. We think the manner in which a majority of the vines have been propagated has much to do with the tendency to disease reported, and believe that when plants are grown only from healthy, well-ripened buds, and have an opportunity to develop the full character of the vine, that it will prove a hardy and valuable grape—not perfection, as has been claimed for it, but one that few cultivators can do without.

Who Knows About it?—It was written, some twenty years since, that at Walpole, Mass., a peach had been grown from seed more than forty years without variation in size or quality, any more than if budded. It was called the "*Allen*." Who knows anything about it?

PLANTS in hot-beds are often destroyed by a too great heat, more especially on a clear, sunny day. Care should be taken to raise the sash, and to let in as much fresh air as possible, consistent with keeping up a requisite degree of heat for plant-growing. If one side of the sash only can be raised, on account of too great cold, let it be the upper side.

PROFITS OF FRUIT.—Each year records are made of private revenues from the growth and sale of fruits. Without reproducing these records of receipts, amounting to from three to five hundred dollars per acre from strawberries; of six to twelve hundred dollars per acre from grapes; of eight to twelve hundred dollars per acre from pears; of two to four hundred for apples, besides innumerable accounts of twenty, thirty, forty, and even eighty, dollars being realized from the fruit of single trees, we will utter one single statement, viz., that where the fruit grown is adapted to the soil and climate, no crop can be grown that will return as large a revenue ten years in succession as fruit. To this, however, we must add, that *fruit-growing is a business*, and will no more take care of itself than the business of the merchant. Both may move on awhile under the labors of employees, but the eye, knowledge, and guidance of the owner must be given from day to day, and month to month, winter and summer, in order to insure successful results. These records of large products, it must be recollected, are mostly from those who have but one or two trees, and who visit, watch, prune, and manure them almost daily, and with as much care as a mother does her children; and he who undertakes fruit-growing, calculating his profits from these records, must expect that his whole time, care, and attention will be devoted to his business. What banker would look for good profits if he only looked at his correspondence and bills of exchange, etc., once in a week or two, leaving the management, meantime, to the care of young and inexperienced hands? and yet his chances of profits are just as good as those of the fruit-grower who depends upon the management of paid labor. An interest in, a love of, and attention to the business are requisite to profitable fruit-growing; but with such interest, love, and attention, fruit-growing proves, wherever pursued, a profitable and pleasing occupation.

FLOWER-BEDS are much benefited, and the durability of the flowers, together with their brilliancy, much increased where the ground is shaded as it were, or protected by a covering about two inches deep of peat soil, leaf loam, or moss from the woods.

MAKE A MAP.—We think the best way of labeling trees or vines is to make a map of the orchard or vineyard in a book, and then designate the row and number of trees, and position in a row, of each kind. The loss of labels attached to tree or vine is then of little account, as a reference to the book enables one to correct or supply a name at a glance. With the record of the name of the kind, the party from whom received might also be recorded, and then in event of a variety proving incorrect to name, blame would fall on the right person.

Sow none but the best seeds. Keep none but the best stock. Use none but the best tools. Plant none but the best trees or vines.

FOR small door-yards, or spaces of fifteen to twenty feet wide, when planting to improve, use flowering shrubs, of small habits of growth mostly. Occasionally a large-growing shrub or second-class tree may be admitted, but avoid large-growing trees entirely.

THE outlets of surface and under drains should be examined whenever a thaw occurs, and any obstruction that may be, cleared away

EARLY MAY CHERRY.—A writer in the *Rural New Yorker*, reporting the transactions of the Illinois Horticultural Society, says:

"What is known as the May Cherry of the West, or sometimes called Early Richmond, was decided to be a native or American seedling, originating near Richmond, Va., from whom the elder Prince took scions to Long Island, and christened the true Early Richmond, and Downing committed the error of making it a synonym of Kentish. It is supposed that the French cherry Donna Maria may be the same one sent back to us under this new name. At all events, the Society decided to call this cherry 'Early May,' and if our French friends lay claim to it, let them prove it.

"This cherry is the only market cherry of much importance in the State, and now stands at the head of the list. It was stated that there was an orchard of six hundred trees in bearing near this city; and that the trees were now heeled-in for one orchard of two thousand trees, and three of one thousand each, besides small lots of fifty and a hundred each.

"It was further decided that the common Morello suckers, or the seedling of the Morello, is the only stock suited to this cherry; that on its own roots it is less productive and ripens later, while on the Mazzard and Mahaleb it was of little value—often being killed by the sudden changes of winter, and liable to lose the crop by early frost. There were some exceptions stated to these positions, but on the whole they were sustained by the facts."

PRUNING, if correctly understood and practiced, is a useful operation; but if not understood, the operator will be likely to cause injurious rather than beneficial results The *result* of every application of the knife to tree or vine should be thoroughly appreciated; it is therefore the duty as well as interest of every grower of fruits to acquaint himself perfectly in the knowledge of pruning.

GRAPE CUTTINGS in the propagating-house should now have considerable bottom-heat, keeping the tops, or main temperature of the house, at about forty-five or fifty degrees.

"WE religiously hold to the faith, that the pure juice of the grape, the apple, pear, and some other fruits, properly prepared and fermented, refined, and ripened, without the *addition of any* substance whatever, will answer every indication as an exhilarating beverage."—*Kennicott.*

GRAPEVINES in the early vinery, which now begin to swell their buds, should be frequently syringed, and in other ways a moistened heat maintained. When there is a tendency of the vines to break only at the ends, bend them around until the buds have broken evenly, as they soon will do.

CAMELLIAS in the window or elsewhere, if flowering freely, should have plenty of water, and the foliage frequently washed if they become dusty.

ROSES that are blooming now freely will be greatly benefited by occasional waterings of liquid manure water. See that the foliage is kept clean; and while the plants have plenty of water, do not let them get soggy. If from any neglect your plant has become spindling and weakly in its growth, cut it all away at once down to three or four buds, give less quantity of water, and see well to the drainage.

EARLY WASHINGTON CHERRY.—Who can tell us something of a cherry under this name? It has been described to us as a very early ripening fruit, larger than Early Purple Guigne, but more the form of Black Tartarian.

ROOT-GRAFTING.—Whenever the frost is out so that roots can be dug, it is a good plan for every one who resides in the country to practice a little at root-grafting. Every fruit-book gives instructions how to do the work, and practice now will enable you to perform the operation on plant and tree outside in the garden, as you may desire to do in the opening of spring.

There are a great many things that the amateur grower can increase and improve by means of grafting: all tree peonias can be grafted on roots of herbaceous peonias; two, three, or more varieties of spireas or wiegelas can be grown on one bush, and many other things can be done to improve and beautify one's grounds.

STRAWBERRY-GROWING.—While we desire as great an increase of extent in fruit-growing as the most enthusiastic, we also think injury rather than good is done to the cause by isolated and, we may almost say, exaggerated statements of the prices received per quart, and the number of quarts produced to the acre. As a good paying crop near a market town, returning, say, one hundred and fifty to two hundred dollars per acre, strawberries can undoubtedly be depended upon; but that $800 to $1,000 can be readily obtained, is one of the statements we do not believe will hold good as a rule, no matter what the cultivation. The young planter, the man just leaving town for the country to grow fruit for a support, has need, before embarking too largely, to weigh well all the statements, and to remember that from the gross receipts there are heavy items to be deducted for preparation of land, cost of plants, labor of planting, hoeing, mulching, picking, marketing, baskets, etc., and also that although as a rule strawberries may be claimed as a sure crop, yet there are seasons when the winter has injured a large number of plants, springs when frosts and cold rains have injured the blossoms, and summers when drought has greatly reduced the promise of a great crop.

As we before said, we are as anxious as the most enthusiastic to see fruit-growing increase, because the health of mankind is benefited by free use thereof; but we do not like to see illusive lights held out, when the real practical truths are in themselves sufficient to induce any reasonable person, with but a shade of love for country life, to engage in its pursuits.

THE GRAPE-GROWING AREA.—A writer in the *Rural New Yorker* estimates the extent of the grape-growing area of our Northern States at one and a half million of acres. He considers all soils as adapted to the purpose, but that it is absolutely necessary for success to have the location where the late spring or early autumn frosts will not destroy the crop.

WHAT FRUITS WILL KEEP BEST IN THE NYCE FRUIT-HOUSE.—Under the patent of Professor Nyce, a number of houses for keeping fruits have been erected, and arrangements made for the erection of more. We have given this patent plan some little attention, and have a suggestion to make to those who are interested. The process, as we are told, is intended to keep the fruit without change; but does it do so? If it does, why is it some fruits decay rapidly when taken from the house and exposed to the air, while others keep almost as well thereafter as they would at their regular season? There is certainly a change taking place all the time, although slowly, and it is the ripening change, or conversion of starch into sugar. Taking this as so—if we are correct—then the fruits best suited to these houses will be found to be those that at maturity have the greatest amount of sugar and the least acid. Thus, the Seckel pear will keep and come out better than Louise Bonne de Jersey, Dana's Hovey better than Vicar of Wakefield. Among grapes, those of a strong aromatic character will be better after keeping and exposure than those of a negative character, as, for instance, Concord will be better than Adironac, Roger's 15 better than Delaware. There is much that is good in Professor Nyce's house, but we do not consider it perfect. There is another plan soon to be brought out, that, from what we are told of it, will be a step in advance, and so regulated that all fruits can be kept equally good. We have not seen it, but hope soon to do so, and then will make our comments.

Glass Houses.—There is a too general dread of glass structures among our amateur fruit-growers and owners of suburban places, caused, doubtless, by the fussy and complicated rules for their management laid down in most books. A grape-house or orchard-house for peaches, etc., can be just as easily managed as a vine or peach-tree in the open ground, and with an almost certainty in the house of a good crop, because in the house temperature can be controlled, while out of doors it can not. With a house constructed so that ventilation can be had only at the top, there is little fear of any mildew, or other disease, so often destructive to vines in houses constructed with both upper and lower ventilators, and there is no trouble whatever in controlling the temperature. In such houses (in the season of frosts) we have seen months pass without the ventilators being disturbed, the temperature being regulated by that outside. The rules for forming borders of rags, old horses, etc., are all humbug; any good rich soil will grow table grapes; and if any enriching material is required, bone meal or well-rotted manure is all that is necessary. In managing, also, the main point is to keep moisture in connection with heat; and as heated air is an absorbent of moisture, it will extract it from the vine or tree, unless it can be obtained from the soil; the surface, therefore, should never be allowed to become entirely dry during the period of vigorous growth. After the fruit has commenced coloring, if the soil becomes partially dry, it will not be injurious. Some think the flavor of the fruit better with less moisture during the latter part of the ripening season.

Dahlia Imperialis.—This is a strong growing plant, with somewhat the habit and appearance of the Dahlia, yet quite distinct, that has flowered in various collections the past season. The French description of it is, that it grows to a height of six to ten feet, has graceful foliage, with large, drooping, white, bell-shaped flowers. *Hovey's Magazine* describes the flowers as pink or pinkish white, while Mr. Phoenix says they are white, with a purple tinge deepening at base.

It is unquestionably a good starting-point on which to produce a class of valuable flowering plants, but in itself will probably be found to flower too late in the season to be of value north of Philadelphia.

Suffolk Beauty Apple.—The *Gardener's Monthly* describes a new apple under the above name as of the "Rambo family," and being 2½ inches wide by 2 deep; oblate, tapering somewhat toward the apex; basin, small and shallow; calyx, small, and mostly colored; stem, cavity medium depth, stem one inch long, slender; color, yellowish white, with a few dark green dots and a little russet near the stem; flesh, white, agreeable sub-acid; season, 10th August to October.

House Plants.—Roses, geraniums, etc., kept in living rooms where the temperature is variable, and where often it is quite dry, are perhaps most affected in their roots, which become too dry or too wet, either of which is extremely injurious. As a preventive cheap and effective, procure pots, say two inches larger than those in which your plants are growing, made with a recurved rim, one and a half inches high, surrounding the hole for drainage at bottom (see figure);

Fig. 30.

into this set your plant pot, its drainage point resting over the raised rim; then fill all around with finely pulverized charcoal or clean sand, which you can always keep moist, and thus prevent the changes from wet to dry, otherwise almost unavoidable in pots of plants kept in warm rooms.

NEW ROSES.—Every season the foreign journals teem with lists of new roses that are described as "superior," but when obtained and flowered in our grounds do not fully sustain their published characters. If, however, we get one good one, distinct in flower and free to bloom, out of a dozen new ones, we consider the investment as a good one. The following is a list of such as from the description promise most, viz.:

Clothilde—vigorous, free-flowering, large flowers, white and rose color, or rose and salmon, occasionally exhibiting a mixture of all these colors. A Tea Rose raised from Bougere.

Aurore—same origin as above, with flowers of the Tea Rose and foliage of the Hybrid Perpetuals, flowers large, full *rose aurore.*

From the list of Hybrid Perpetuals we select the following:

Comte Litta—flowers, four inches diameter, large petals, velvety purple shaded with fiery red and bordered with violet.

Jules Calot—bright carmine edged with blush.

Madame George Paul—large, full, imbricated, lively deep rose shaded and edged with blush.

Madame la Comtesse de Turenne—flowers, full, flat; delicate flesh.

Napoleon III.—flowers in clusters, three to six, bright scarlet with dark slaty violet.

Alba Carnea—flowers, medium size, well formed, white tinged with rose.

Charles Verdier—raised from Victor Verdier, flowers large, rose color edged with blush.

Comtesse de Valliere—medium-size flowers, deep violet purple shaded with a blackish hue.

BRONX PEAR.—This is claimed as a new seedling, originating with James P. Swain, of Bronxville, in 1850, and described as follows in the *American Agriculturist:*

Tree, an upright grower, pyramidal; wood, reddish brown; regular and abundant bearer; fruit, medium, obovate pyriform, thickly sprinkled with russet dots, which frequently run together and form patches of russet, especially near the stem and calyx, where the skin is often completely russeted; stem, 1½ inches long, moderately stout, and enlarged at its insertion, which is usually in a well-marked, uneven cavity, though in some specimens, where the form approaches to turbinate, the cavity is wanting; calyx, open, with short segments set in a slight and obscurely furrowed basin; flesh, yellowish white, slightly coarse grained, very juicy and melting, sweet and rich, with a delicate perfume; season, first to middle of September.

A CULTIVATOR of the Grape, writing twenty-two years since, says that "Norton's Seedling, at five years old, gave him two and three quarter bushels of grapes."

DRESS asparagus-beds freely this month with salt and about two inches deep of well-rotted manure, to be lightly forked in as soon as the frost permits working the ground.

THE name of *Grimes' Golden Pippin* apple was changed, by the Ohio Pomological Society at its last meeting, to that of *Grimes' Golden.*

SAVE THE WASTE BONES.—There is in almost every family a daily waste of bones, that if saved and applied to the roots of the pear-trees and grapevines in the garden, would supply yearly sufficient manure for one hundred plants.

We have seen the roots of a pear-tree turn from a two-third radius of the circle to embrace and feed upon a few bones that were buried on one side of the tree. Hoare, in his "Treatise on the Vine," gives an account of the roots of a vine passing through dry clay to reach a bone, giving out no lateral or fibrous roots until it reached the bone, but when there, sent out numerous fibers, perfectly embracing and covering it.

FOR WHOM DO WE WRITE?—Recently, on reading over again "Our Farm of Four Acres," we were amused at the accounts there given of learning how to make butter, in which the writer says, that entirely without knowledge of the first practical working, they gathered together various books for the purpose of learning; and that one author told them "the butter must be washed and well cleansed," another that "it must be beat on a board and not worked with the hands," but not one gave the practical minutiæ of how to get the butter from the cream. Turning from this work to a recently published article in the Agricultural Department Report, we found information of "how to bud" consisted in telling us that "the operation is simple, an expert hand setting as many as two thousand in a day," and further, that "the bud is cut about one inch in length, the eye being in the middle." Turning to a friend who sat by us at the time, and who is a perfect novice in all relating to practical country life, we handed him the book and asked him if he thought he could bud a tree from that description. The reply was, he "could make nothing of it." This set us thinking and reviewing, with a conclusion that far too many writers word their matter in such manner as to be only understood by the initiated, and who having no need of such writing rarely read it. At the risk of being criticised, we will venture therefore to say that every writer who attempts to instruct in any horticultural operation that is principally if not wholly mechanical, should remember that the reader for whose benefit he writes is utterly ignorant of the first movements, and that it is almost impossible to be too minute in giving directions for performing the work. Strange as it may appear to the person who has all his life been engaged in horticultural pursuits, and who understands fully every item, there are hundreds, nay, thousands of readers and new beginners to whom the terms "head in," "shorten back," "pinch the laterals," "heel in," etc., are as so much Greek, no more understood than the Rule of Three in arithmetic is by the child who has but just mastered the alphabet.

GRAPE CUTTINGS.—Many persons have a few grape cuttings which they wish to propagate. A good way is to trim them this month, February, cut them up into cuttings, each having two buds. Make the cut at the lower bud just at its base, not too close or so as to cut the bud, but yet as near as may be without injury, and square across the wood; above the upper bud make the cut sloping, and about two inches therefrom.

FIG. 31.

Now procure a box of a size to hold all the cuttings, and also some clean, white building sand. Spread a coat of sand about an inch deep in the bottom of the box, then lay in a layer of the cuttings, and then fill the interstices and cover them with the sand; again lay cuttings, and then sand, and so continue until all are laid in and covered. Now set the box away in a dark place in the cellar, where it will be neither dry nor wet, but where the sand will keep all the time moist; and at planting-time, say the month of May, the cuttings will nearly all be found to have callused, as the term is, that is, the lower ends will have a mass of little, white, globular excrescences that are the germs of roots. Cuttings made in this way are for planting out in the open ground. Those who have hot-bed frames in which to grow them may form the cuttings of one eye only, cutting one inch above and one inch below the bud for each, and packing away same as above.

NEW JERSEY STATE AGRICULTURAL SOCIETY.—This Society held its annual meeting in the State House at Trenton, January 16. The President, General N. N. Halsted, occupied the chair. His annual address was concise, pithy, and to the point. The President paid a well-deserved tribute to the State Geologist, Prof. Coock, for his valuable reports on the agricultural resources of the State.

The following is a list of officers elected for the ensuing year:

OFFICERS.

President, N. N. Halsted; *Vice-President*, J. C. Deacon; *Corresponding Secretary*, R. S. Swords; *Recording Secretary*, W. M. Force; *Treasurer*, B. Haines.

DIRECTORS.

Essex, Stephen H. Condict, John Boylan, W. A. Brintzinghoffer, Geo. R. Dunn, Jno. H. Meeker, Nehemiah Perry; *Union*, Amos Clark, Jr., Josiah O. Stearns, Jno. M. Pruden, David D. Buchanan; *Sussex*, Jno. Rutherford; *Passaic*, Martin J. Ryerson; *Bergen*, Francis W. Woodward; *Somerset*, J. V. D. Hoagland; *Middlesex*, Isaac S. Buckalew; *Monmouth*, N. S. Rue; *Salem*, B. Acton; *Hudson*, W. H. McClear; *Mercer*, G. J. Campbell; *At Large*, I. R. Cornell.

The report of the Treasurer (Benjamin Haines) shows that the finances of the Society are in a hearty condition. There is a balance in the treasury of over $700.

Col. Swords, the newly elected Corresponding Secretary, deserves much praise for his untiring labors for the past two years in promoting the interests of the Society. The report of the Executive Committee was carefully prepared, and contained many valuable suggestions, which I hope will be put in practice by those members of the Society who were present. The Committee in their report dwell at considerable length on the insects that are injurious to fruit in the State, and in this connection commend Dr. Trimble's labors in the highest terms, and urge him to continue his researches—among the insects. Prof. Coock, State Geologist, made some interesting remarks on the mineral wealth of the State, also on the value of marl as a fertilizer.

P. T. Quinn made some remarks on fruit culture in New Jersey, and urged prompt action of the Society to collect and publish such information as would guide the fruit-grower in his labors.

It was resolved that Mr. Quinn be requested to read before the Society at its next meeting a paper on the culture of fruits, and the adaptability of the different sections of the State to the growth of the various kinds.

Dr. I. P. Trimble, David Ayers, and P. T. Quinn were appointed a committee to memoralize the Legislature to pass a law to sell vegetables by weight instead of measure. It was decided to locate permanent grounds near Newark.

"NEW JERSEY."

THE artist-farmer of Edgewood, Donald G. Mitchell, whose charming "Farm at Edgewood," and "Wet-Weather Days," as well as his actual work on his own estate, have proven him master alike of the poetry, the science, and the practicalities of rural life, is preparing now a volume on landscape gardening and rural embellishment generally. Nothing could be more timely, or surer of warm welcome, as no one is so well fitted for the work as Mr. Mitchell. And if, as we hear, he proposes to offer his services to those wanting special suggestions and plans for the selection and development of private home grounds, and the management of model farms, he will at once, we are sure, become the new Downing of America, and something more. What we need in this country is to learn how to marry taste with profit in rural life, to have elegant country homes and conduct farm estates with an eye to neatness and beauty, without an annual impoverishing of our purses; and Mr. Mitchell has shown, both by his example at New Haven, and his rural writings, that this can be done. The secret is too valuable to be kept to himself.

SEEDLINGS AND GRAFTED TREES.—In an account of the farm of W. C. Flagg, of Alton, Ill., published in the *Farmer's Advertiser*, an examination of the apple orchard was made after forty years from the date of its planting, the result showing forty per cent. of seedlings and grafted trees living, there being no difference in longevity. Pryor's Red, Kirkbridge White, and Newtown Pippin were the three sorts of which the largest percentage was alive.

TOMATO SEEDS.—We shall feel obliged for a few seeds each of any new variety that our friends have grown and consider valuable. We propose testing, side by side, every obtainable variety the coming season.

TWO WAYS OF GROWING ASPARAGUS.—Among our many asparagus-growing acquaintance there are two who are side-by-side neighbors, and who both grow large and succulent asparagus of the very finest appearance, and yet whose practices are so at variance that we consider them worth record. The one forms his asparagus-bed by digging a deep trench, say one foot deep and about eighteen inches wide; into the bottom of this he deposits a coating of well-rotted manure, forks it into the soil, and then sets his plants, covering from the side soil. From year to year he adds soil from that thrown out, until the whole has come to a level, when he again forms new beds.

The other practices as follows: He turns over a piece of rich sward, on which he builds twelve to fifteen inches deep of compost, composed of well-rotted manure, muck, and rich virgin loam, and on top of this bed he sets his plants.

THE common periwinkle—*Vinca*, the English Ivy—*Hedera*, and the Evergreen Honeysuckles—*Caprifolium sempervirens* and *flexerosum*, are all good plants to grow as trailers covering the ground under trees where the foliage is too dense for grass to flourish.

HARDINESS OF SWEET-APPLE TREES.—It has been frequently stated that, as a class, trees bearing sweet apples are more hardy than those producing acid or even mild sub-acid fruit. We should like to hear of this from some of our Western fruit-growers.

DWARF PEAR-TREES.—A writer in the *Kansas Farmer* says he practices transplanting his dwarf pear-trees every other autumn, that it adds to their vigor and causes them to bear earlier. He thinks the Bartlett and Doyenne d'Ete do not agree well with the quince, and should be grown on pear roots.

DIED.—Dr. Von Siebold, to whom we owe the introduction of many fine plants from Japan, died in October last, at the age of seventy-one years.

BOOK NOTICES.

THE AMERICAN GARDENER'S ASSISTANT. By Thomas Bridgeman. New edition, revised by S. Edwards Todd. New York: William Wood & Co., 61 Walker Street. Price, $2 50.

We are pleased to see a new edition of this old and valuable work. It is now many years since we first conned its pages and recommended it to all inexperienced in garden or orchard culture as a work full of plain, practical instruction. The revised edition contains all the old matter, perhaps a little more systematically arranged, together with numerous illustrations. We take the liberty of suggesting to the revisory editor, that although illustrations are valuable, they are more so when accompanied by descriptions, and we should also remind him that in varieties of plants and fruits there has been considerable progress in the past twenty-five years, and that if he will inquire of any good, practical, commonly well-informed man, he will find he has retained in this book descriptions of varieties now discarded, and omitted any notice of many well-known popular sorts.